AMENDMENT TO THE CLAIMS:

Please amend claims 15, 17, 18, 23, 25, 26 and 28, and please add new claims 31 and 32 as follows:

1-14. (Canceled)

15. (Currently amended) A substance adsorption detection method using a sensor having a crystal oscillator, the method comprising:

providing a sensor having an optical waveguide path disposed on ~~a~~ the crystal oscillator, said crystal oscillator comprising ~~which further comprises~~ a crystal and electrodes formed on either side of said crystal;

providing light inputting means and light emitting means positioned on one face of said sensor on which a detection target substance is adsorbed;

exposing said sensor to said detection target substance, while inputting light through said light inputting means to the optical waveguide path; and

measuring an oscillation characteristic of said crystal oscillator and of light transmitted on said optical waveguide path and emitted through said light emitting means.

16. (Original) The substance adsorption detection method according to claim 15, wherein said waveguide path is an optical waveguide layer which has a clad portion and a core, said core being made of a higher refractive index medium than said clad portion, both said core and said clad portion being stacked on said crystal oscillator.

17. (Currently amended) The substance adsorption detection method according to claim 15, wherein one of said electrodes is an optical waveguide electrode made of an electrically conductive transparent material having a higher refractive index than a refractive index of said crystal, said optical waveguide electrode serving as a core of said optical waveguide path.

18. (Currently amended) The substance adsorption detection method according to claim 15, wherein a crystal substrate ~~an interior~~ of said crystal oscillator serves as a core of said ~~an~~ optical waveguide path.

19. (Original) The substance adsorption detection method according to claim 15, wherein a metallic film is formed on said optical waveguide path.

20. (Original) A substance adsorption detection method comprising:

measuring a propagation characteristic of a surface acoustic wave in a surface acoustic wave element, and of light guided through an optical waveguide path provided in or on said surface acoustic wave element.

21. (Original) A substance adsorption detection method comprising:

forming a metallic colloid layer on at least one of a crystal oscillator and a surface acoustic wave element;

measuring an adsorbed mass with at least one of said crystal oscillator and said surface acoustic wave element; and

measuring an optical characteristic of said metallic colloid layer.

22. (Original) The substance adsorption detection method according to any one of claims 15 to 21, wherein a sensitive material layer whose optical characteristic is changed by substance adsorption is provided.

23. (Currently amended) A sensor having a crystal oscillator, the sensor comprising:

a crystal oscillator ~~which further comprises~~ further comprising a crystal and electrodes formed on either side of said crystal; and

an optical waveguide path for guiding light,

wherein light inputting means and light emitting means are provided on one face of said sensor on which a detection target substance is adsorbed.

24. (Original) The sensor according to claim 23, wherein said waveguide path is constituted as an optical waveguide layer which has a clad portion and a core, said core being made of a higher refractive index medium than said clad portion, both said core and said clad portion being stacked on said crystal oscillator.

25. (Currently amended) The sensor according to claim 23, wherein one of said electrodes is an optical waveguide electrode made of an electrically conductive transparent material having a higher refractive index than a refractive index of said crystal, said optical waveguide electrode serving as a core of said optical waveguide path.

26. (Currently amended) The sensor according to claim 23, wherein a crystal substrate ~~an interior~~ of said crystal oscillator serves as a core of said optical waveguide path.

27. (Original) The sensor according to claim 23, wherein a metallic film is formed on said optical waveguide path.

28. (Currently amended) A sensor which measures a propagation characteristic of a surface acoustic wave in a surface acoustic wave element, and light guided through an optical waveguide path provided in or on ~~an interior of~~ said surface acoustic wave element.

29. (Original) A sensor comprising:

a crystal oscillator or a surface acoustic wave element; and

a metallic colloid layer formed on said crystal oscillator or said surface acoustic wave element.

30. (Original) The sensor according to any one of claims 23 to 29,

wherein a sensitive material layer whose optical characteristic is changed by substance adsorption is provided.

31. (New) The substance absorption detection method according to claim 15, wherein a thin film is provided on one side of said sensor so that a refractive index of said thin film is changed when said thin film adsorbs said detection target substance to thereby cause light from said light emitting means to change.

32. (New) The sensor according to claim 23, wherein a thin film is provided on one side of said sensor so that a refractive index of said thin film is changed when said thin film adsorbs said detection target substance to thereby cause light from said light emitting means to change.